

KAA Curriculum Overview		Maths	Year 12	EOY Exam	Sequencing and Progression	
<b>Rationale</b> Students study all of the Year 1 AS content in Y12. The first few units are transitional units from GCSE, and help students acclimatise to A Level maths. A lot of the content takes ideas learnt at GCSE and extends them further, going into more depth, and these topics also become more abstract. During their study of A-Level, students start approaching mathematics in a more rigorous manner that resembles how maths is studied at university.  At A-Level, students will study the various branches of mathematics in more detail and will start appreciating them as stand-alone subjects in their own right.				<i>What content and skills will be assessed in the EOY exam?</i>  Students will sit a full AS paper assessing all Year 1 content. This will be a bespoke paper composed of past paper questions from the new specification. Students will sit two papers, one pure and one applied and the proportion of marks will reflect that of the actual AS maths qualification.	<i>How does this year build on what they've learnt last year?</i>  There are many links between the A-Level specification and the GCSE higher specification. The first few chapters at AS Level are studied at GCSE and in most cases these ideas are extended further. For example, students encounter solving quadratics, but the types of question that students are examined on requires a greater depth of understanding.	<i>How will it benefit them as they move forward next year?</i>  A lot of the algebraic techniques that students study in Year 1 lay the foundation for Year 2. A lot of the algebraic manipulation, whilst not explicitly taught in its own right, becomes an essential skill in almost all areas of mathematics in Year 2. It is crucial that students finish Year 1 with a good understanding of the key concepts, and become competent in skills such as simplifying expressions or equations.
<b>Term</b>	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 1</b>	<b>Spring 2</b>	<b>Summer 1</b>	<b>Summer 2</b>
<b>Link to MTP Overview</b>	<a href="#">Year 12 AUT1 MTP 22/23</a>	<a href="#">Year 12 AUT2 MTP 22/23</a>	<a href="#">Year 12 SPR1 MTP 22/23</a>	<a href="#">Year 12 SPR2 MTP 22/23</a>	<a href="#">Year 12 SUM1 MTP 22/23</a>	<a href="#">Year 12 SUM2 MTP 22/23</a>
<b>Topic studied</b>	<b>Pure:</b> FQ1 Algebra FQ2 Graphs  <b>Statistics:</b> FQ1 Data and sampling	<b>Pure:</b> FQ3 Coordinate geometry FQ4 Differentiation  <b>Statistics:</b> FQ1 Data and sampling FQ2 Probability FQ3 Probability distributions	<b>Pure:</b> FQ4 Differentiation FQ5 Integration FQ6 Exponentials and logarithms  <b>Statistics:</b> FQ4 Hypothesis testing  <b>Mechanics:</b> FQ1 Constant acceleration	<b>Pure:</b> FQ7 Binomial expansion FQ8 Vectors FQ9 Trigonometry  <b>Mechanics:</b> FQ2 Forces and motion FQ3 Variable acceleration	<b>Pure:</b> FQ9 Trigonometry  <b>Mechanics:</b> FQ3 Variable acceleration	<b>Pure:</b> Revision for AP3 FQ10 Algebraic techniques FQ11 Binomial expansion  <b>Statistics:</b> FQ5 Correlation
<b>Adjustments following last assessments / evaluation.</b>				Vectors to be taught in pure to allow for more time to teach applied content		
<b>Key knowledge and skills students need to have gained by the end of the unit</b>	<b>Pure:</b> <ul style="list-style-type: none"> <li>Indices and surds</li> <li>Quadratics</li> <li>Simultaneous equations</li> <li>Inequalities</li> <li>Proof</li> </ul> <b>Applied:</b> <ul style="list-style-type: none"> <li>Sampling</li> <li>Large data set</li> <li>Central tendency and spread</li> <li>Representing data</li> </ul>	<b>Pure:</b> <ul style="list-style-type: none"> <li>Linear graphs</li> <li>Circles and tangents</li> <li>Differentiating functions</li> <li>Tangents and normals</li> <li>Modelling with differentiation</li> </ul> <b>Applied:</b> <ul style="list-style-type: none"> <li>Independence</li> <li>Tree diagrams</li> <li>Venn diagrams</li> <li>Binomial distribution</li> </ul>	<b>Pure:</b> <ul style="list-style-type: none"> <li>First principles</li> <li>Integration</li> <li>Finding areas</li> <li>Exponential modelling</li> <li>Laws of logarithms</li> <li>Solving equations with logarithms</li> </ul> <b>Applied:</b> <ul style="list-style-type: none"> <li>Displacement and velocity time graphs</li> <li>SUVAT equations</li> </ul>	<b>Pure:</b> <ul style="list-style-type: none"> <li>Binomial expansion and estimation</li> <li>Magnitude and direction of vectors</li> <li>Solving geometric problems with vectors</li> <li>Non right-angled trigonometry</li> </ul> <b>Applied:</b> <ul style="list-style-type: none"> <li>Force diagrams</li> <li>Forces and acceleration</li> <li>Connected particles</li> </ul>	<b>Pure:</b> <ul style="list-style-type: none"> <li>Non right-angled trigonometry</li> <li>Trigonometric graphs</li> <li>Solving trigonometric equations</li> </ul> <b>Mechanics:</b> <ul style="list-style-type: none"> <li>Using differentiation</li> <li>Using integration</li> <li>Maxima and minima problems</li> </ul>	<b>Pure:</b> <ul style="list-style-type: none"> <li>Revision for AP3</li> <li>Proof</li> <li>Algebraic fractions</li> <li>Partial fractions</li> </ul> <b>Mechanics:</b> <ul style="list-style-type: none"> <li>Revision for AP3</li> <li>Measuring correlation</li> <li>Hypothesis testing for correlation</li> </ul>

<b>How is understanding assessed at the end of the unit?</b>	Baseline test within the first two weeks to determine any major gaps in knowledge from GCSE	AP0.5 assessment	AP1 assessment		AP2 assessment	AP3 assessment to help determine UCAS predicted grades
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